AU/ACSC/108/1999-04

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

POWER PROJECTION:

A COMPARISON OF THE AEROSPACE EXPEDITIONARY FORCE AND THE CARRIER BATTLE GROUP

by

Peter A. Lee, Major, USAF

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Major Thomas P. Himes Jr.

Maxwell Air Force Base, Alabama

April 1999

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
APR 1999	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Power Projection: A Comparison of the Aerospace Expeditionary Force and the Carrier Battle Group	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Air University Press Maxwell AFB, AL 36112-6615**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**UU**	**37**	

Disclaimer

The views expressed in this academic research paper are those of the author and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Contents

Page

Abstract

The end of the Cold War and the changing world strategic environment has brought about a dramatic shift in the emphasis of forces throughout the military. In the past decade, the U.S. has continually been sending ad hoc deployments of forces in reaction to Iraqi actions. Several times the Air Force has deployed forces to augment a Carrier Battle Group (CVBG) already in theater or to fill a gap left behind when a CVBG could not remain on station. This study compares the Aerospace Expeditionary Force (AEF), which will be implemented in January 2000, and the CVBG. In particular, it looks at the ability of each to project power throughout the world. The National Security Strategy guides and directs military doctrine. This study shows how joint doctrine, as well as Air Force and Navy doctrine, has developed to provide viable power projection forces. The AEF is a very capable, mobile force which brings flexible firepower to the fight. It is able to respond rapidly and provide combat operations within 72 hours of execution, anywhere in the world. The AEF is limited by logistics, host nation support and overfly rights. The CVBG is also a capable force, providing flexible firepower. It is expeditionary in nature, but is limited by sortie generation, logistics and speed of deployment. The situation will dictate what forces will be necessary to meet our objectives. Commanders of tomorrow will have to analyze the situation and determine the appropriate force required and decide whether to ask “Where is the Carrier?” or say, “Send an AEF!”.

Chapter 1

Introduction

Statement of the Research Question

With the end of the Cold War nearing a decade, all services of the armed forces have seen a drastic change in their respective roles and functions. The Navy has long been known for the ability to effectively project power. With many regional conflicts rising throughout the world, the Air Force has seen itself becoming more of a power projector. It has long been the standard that when a crisis arose, we would send the nearest Carrier Battle Group (CVBG). With limited budgets and reductions in personnel and equipment, a twelve carrier Navy may not be capable of being the predominant power projector. The Air Force has redeveloped the concept of the Air Expeditionary Force (AEF) and the Expeditionary Aerospace Force (EAF) to adapt to the changing strategic environment. By comparing the strengths and weaknesses of the AEF and CVBG, the author hopes to determine if the AEF is indeed capable of being a viable power projection tool for the United States.

Background and Significance of the Problem

During his 4 August 1998 Department of Defense (DOD) press briefing, Acting Secretary of the Air Force, F. Whitten Peters discussed the background of the AEF. He

mentioned that during the Cold War, the Air Force was a large force that concentrated on containment and operated as a fixed wing force from the United States, Europe and the Pacific. Since the end of the Cold War many of these bases have been closed and our operations have shifted focus to contingency operations in which a select number of units deploy to locations around the world. These units deploy to bare bases for the duration of the mission. Several examples of this can be seen during the Persian Gulf situation.[1]

The end of the Cold War and the emerging crisis throughout the world has seen a dramatic shift in emphasis of forces throughout the military. Army and Air Force active-duty strengths were slated for reduction from their 1985 peaks by some 37 percent, the Navy by 29 percent and the Marine Corps by 12 percent.[2] The Air Force has also decreased its number of permanent overseas bases from 50 to 17, which leads to more deployments from U.S. bases.[3] Even though budgets were falling, requirements were not. With the fall of the 'known' enemy of the Soviet Union, the United States has seen other crisis arising throughout the world, Iraq being the most significant. The Air Force's success during the Gulf War seemed to prove that air power could deliver an overwhelming punch and limit the number of friendly casualties. Armed with this confidence and ever decreasing budgets, the Air Force needed to direct its attention toward a smaller, yet more capable force.

General Ryan, Chief of Staff of the United States Air Force, summed up the direction of the Air Force in a DOD briefing. He stated that "the Air Force has moved away from a containment strategy to one of global engagement with shaping and responding as the key words for the USAF and we'll be operating from bases that have a limited infra structure". What has come from this is the expeditionary aerospace force

which will meet the national needs. This force must be capable of a rapid response with trained and ready forces that are capable, lean, agile and structured so that they can be rapidly deployed with a command structure which will make it effective.[4]

Limitations of the Study

At the time of this study the implementation date of the new expeditionary aerospace force was still about one year away. General Ryan established an implementation date of 1 January 2000. Many of the numbers and calculations in this study were taken from previous AEF deployments which were scheduled and controlled. Under the new system, AEF's will be "on call" to respond to uprisings and be on a 48 hour notice. The original AEF's were smaller compared to the new AEF's proposed by General Ryan. Some comparisons between Air Force and Naval forces are used with the smaller numbers, and some assumptions are made about the effectiveness of the increased number of forces. This study will concentrate on the theoretical side of operations when comparing the AEF and CVBG, and not so much on the exact details and costs of such operations.

Definitions and Assumptions

For the purpose of this study the author will use Expeditionary Aerospace Forces (EAF) and Air/Aerospace Expeditionary Forces (AEF) interchangeable. Note that the EAF is more of a concept of what the Air Force will be and the AEF is the operational unit which will help it get there. In his briefing, "Evolving to an Expeditionary Aerospace Force", Col Mark Jefferson defines the EAF as the 21st century Air Force. It is a Total Force that is organized, trained and equipped to operationalize the vision of Global Engagement and meet our nation's mandate to Shape the international

environment, Respond to a full spectrum of crises, and Prepare Now for the demands of the modern security environment. The AEF is the package of aerospace forces, which are tailored to meet the needs of the Joint Force Commander.[5]

Preview of the Argument

After a look at the definitions of power projection and a detailed discussion of joint, Air Force and Naval doctrine, this study will show that the Aerospace Expeditionary Force is just as capable as the CVBG, if not more, of effectively projecting power throughout the full spectrum of conflict throughout the world. This study will also show the inherent strengths and weaknesses of the AEF and the CVBG.

Notes

[1] F. Whitten Peters, Acting Secretary of the Air Force, "Air Expeditionary Forces", DOD Press Briefing, 4 Aug 1998.

[2] Brian E. Wages, "The First With the Most: USAF's Air Expeditionary Force Takes the Offensive on Power Projection," *Armed Forces Journal International*, no.134, (Sep 1996), 66-71.

[3] Glenn W. Goodman Jr., "An Expeditionary Aerospace Force: USAF Plans Fundamental Shift in How It Responds to Global Contingencies," A*rmed Forces Journal International,* no. 136, (Aug 1998), 18 – 19.

[4] General Michael Ryan, Chief of Staff, United States Air Force, "Air Expeditionary Forces", DOD Press Briefing, 4 Aug 1998.

[5] Colonel Mark Jefferson, "Evolving to an Expeditionary Aerospace Force Briefing", EAF Briefs, 8 Jan 1999, available from http://eaf.dtic.mil/htmlbriefs.

Chapter 2

Power Projection Defined

> *The U.S. military plays an essential role in…shaping the international environment in ways that protect and promote U.S. interests. Deterrence of aggression and coercion on a daily basis is crucial. Our ability to deter potential adversaries in peacetime rests on several factors, particularly on our demonstrated will and ability to uphold our security commitments when they are challenged.*
>
> William Jefferson Clinton
> A National Security Strategy For a New Century

These are extremely important words the White House published in defining the military's role in today's strategic environment. Deterrence of aggression and coercion on a daily basis is crucial – that is where power projection comes in. In order to fully understand the meaning of power projection and how the military sees itself in this role, this paper will look at the overall military doctrine and individual service definitions.

Joint Doctrine

In *Joint Vision 2010*, the Chairman of the Joint Chiefs of Staff provided a common direction for all Armed Services for the future. The Chairman states, "the primary task of the Armed Forces will remain to deter conflict – but should deterrence fail, to fight and win our nation's wars."[1] *Joint Vision 2010* goes on to predict that the Armed Services should expect and plan to participate in a broad range of deterrent, conflict prevention and peacetime activities. This will include working closely with our friends and allies.

The deterrence the Chairman is referring to is not just the classical nuclear deterrence which was associated with the Cold War. The bulk of the training will be dedicated to worldwide military operations across a full spectrum of military operations. This full spectrum of military operations includes peacetime engagement, smaller-scale contingencies, major theater wars and global conflict.[2] In these operations we will depend mostly on conventional warfighting capabilities, including Military Operation Other Than War (MOOTW), to deter, contain conflict, fight and win.[3]

To ensure we can accomplish these tasks, power projection, enabled by overseas presence, will remain the fundamental strategic concept of our future. The U.S. Armed Forces will stay a force which is largely based in the United States. We will need critical overseas forces which are permanently stationed. To help deter and defeat aggression, these forward based forces must have the proper infrastructure and equipment, and adequate interaction between our country and foreign militaries to demonstrate our commitments, strengthen our military capabilities and enhance the organization of the coalitions. According to *Joint Vision 2010*, "power projection from the United States, achieved through rapid strategic mobility, will enable the timely response critical to our deterrent and warfighting capabilities".[4] To ensure this power projection capability, we must have an overseas presence and highly mobile forces.

In order to achieve dominance across the full spectrum of military operations, *Joint Vision 2010* describes four operational concepts to guide future joint warfare – dominant maneuver, precision engagement, focused logistics and full-dimensional protection.[5] To understand the role of the AEF and CVBG across this full spectrum of military operations, it is necessary to define each of these four operational concepts.

Dominant maneuver will be the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint forces to achieve the objective.[6] Any force which will be deployed, whether being the AEF or CVBG, must bring with it enough multidimensional capabilities to be effective. A power projection force has to have the capability to employ and sustain forces and coordinate with other dispersed forces.

Precision engagement will consist of multiple systems which enable our troops to locate the target, generate the desired effect and retain the flexibility to reengage with precision when needed. To ensure this works effectively, any force must have responsive command and control and we must be able to adequately assess the effectiveness of each mission.[7] Any force, which is sent to a given theater, must provide precision engagement. With the improved technology and accuracy of weapons, we now have the capability to effectively employ mass on specific targets, using less forces. This will enable an AEF/CVBG to be a more effective power projection force.

Full-Dimensional protection, while it does not seem the top priority for a deploying force, it is extremely critical. We must be able to protect of own forces when we deploy. We must control the battlespace to ensure our forces maintain freedom of action during all phases of the operation, while providing proper defenses for all our forces and infrastructure/equipment.[8] With decreasing budgets and smaller number of forces deploying, it becomes more critical to protect the assets these forces bring to a given theater.

Focused logistics is the fourth operational concept which will help provide full spectrum dominance of military operations. Focused logistics combines information,

logistics and transportation through all phases of a crisis, from pre-deployment to re-deployment. Focused logistics must be tailored to the needs of deployed forces and sustain forces at all levels of operations.[9] Focused logistics will have to remain flexible, depending upon the type and extent of any conflict which an AEF/CVBG might be called upon. It is one thing to have forces in theater, but the forces must be properly equipped to successfully complete the mission.

The development of *Joint Vision 2010* and the concept of full spectrum dominance has lead to the different services changing their mindsets on how to conduct business. The Navy has long considered power projection as one of its primary capabilities, while the Air Force has just recently shifted gears toward this role. To better understand the roles of the AEF and CVBG and its relationship to power projection, it is necessary to examine the basic doctrinal issues of each of these services.

Air Force Doctrine

In response to *The National Security Strategy for the 21st Century* and *Joint Vision 2010*, the Air Force developed *Global Engagement: A Vision for the 21st Century Air Force*. Air Force leaders determined the new strategic vision must meet the security needs of the nation and do it with a force that was predominately U.S. based. *Global Engagement* states that there has been a shift of thinking from extensive forward based structure, to an increased need to project power from the U.S.[10] Full spectrum dominance depends on the inherent strengths of modern air and space power. These strengths, as listed in *Global Engagement*, are speed, global range, stealth, flexibility, precision, lethality, global/theater situational awareness and strategic perspective. Air power can

also help promote U.S. interests by supplementing forces already in place and with power projection missions.[11]

Air Force doctrine follows the guide of *Global Engagement*, specially in terms of power projection.. It is important to know what capabilities the Air Force brings to the fight and exactly how an AEF can provide these capabilities. These capabilities which are the combinations of professional knowledge, expertise and know-how are called core competencies. Core competencies are the basic areas that a service brings to an operation across the full spectrum of military operations. These competencies are not necessarily unique to a given service, but for that service they are not an option.[12]

The Air Force's core competencies, as listed in *Air Force Basic Doctrine*, are air and space superiority, precision engagement, information superiority, global attack, rapid global mobility and agile combat support.[13] While some of these competencies are more vital to the AEF and its ability to power project, all of them are important to some degree.

Air and space superiority simply means the freedom to attack as well as freedom from attack. Success in all operations depends upon it.[14] Air and space superiority is important to the AEF's mission in that it must consist of enough superiority assets to ensure air and space superiority. If we do not have the freedom to attack an enemy, the enemy will not be threatened and therefore will be less likely to be deterred by our presence.

Precision engagement has been discussed as one of the four operational concepts which *Joint Vision 2010* states is necessary to attain full spectrum dominance of military operations. The Air Force definition of precision engagement is similar to the one in *Joint Vision 2010*. The Air Force looks at precision engagement as the scalpel of joint

service operations. It is the ability to command, control, and employ forces to cause discriminate effects. This is not a unique capability of the Air Force, but according to *Air Force Basic Doctrine* it "is the Service with the greatest capacity to apply the technology and techniques of precision engagement anywhere on the face of the earth in a matter of hours or minutes".[15] It is the ability to provide precision engagement anywhere on the face of the earth in a matter of hours or minutes that clearly gives an advantage to the Air Force and AEF concept in the role of power projection.

Information superiority is the ability to collect, control, exploit, and defend information while denying the enemy the same.[16] Much like air and space superiority, this is vital for an AEF to have adequate assets deployed and utilized to ensure success.

Global attack is the next Air Force core competency essential to an AEF. It is the ability of the Air Force to rapidly and persistently attack, anywhere on the globe at any time, which is unique. The Air Force realized because of the decline of the force structure and overseas bases, it has become mainly an expeditionary force. The Air Force sees itself as able to "rapidly project power over global distances and maintain a virtually indefinite presence over an adversary."[17] While some of these forces capable of global attack are intercontinental ballistic missiles and long range bombers, it will be the role of an AEF to provide sustained firepower onto targets within 72 hours of an execute order.[18]

Rapid global mobility is the timely transport, positioning and ability to sustain forces throughout the world and across the full spectrum of military operations. In order for an AEF to get bombs on target in 72 hours, rapid global mobility is a must. What is even more critical than the first bombs on target, is the sustainment of operations. An AEF will do very little in terms of power projection if it is only capable of sustaining a short,

limited effectiveness campaign. Rapid power projection based in the U.S. has become a predominant military strategy and it is the core competency of rapid global mobility which makes it possible.[19]

As with rapid global mobility, agile combat support also deals with sustainment of forces in a given theater. Agile combat support implies there is a need to provide highly responsive support poised to respond to taskings throughout the world in a short amount of time.[20] Two key areas are very relevant to the AEF – global and responsive. The Air Force must be able to support any mission along the spectrum of military operations and be ready to do it anywhere on earth.

According to Air Force doctrine, because of the reduction in overseas military presence, having expeditionary forces which can rapidly mass and move anywhere in the world is critical to operations in the future.[21] Air and space expeditionary forces are more and more capable of influencing a distant theater, sometimes without actually being present in theater. An example how these core competencies give an AEF the potential to be a viable power projection force is a contingency operation occurring in the Persian Gulf in 1994. The U.S. deployed aircraft to the region in response to Iraq unexpectedly massing armor near the border. General Jumper, the Joint Force Air Component Commander at the time, noted "that the Iraqis ceased rattling their sabers when the first air augmentees arrived in theater and further conflict was avoided."[22]

Navy Doctrine

> *The application of offensive military force against an enemy at a chosen time and place. Maritime power projection may be accomplished by amphibious assault operations, attacks of targets ashore, or support of sea control operations.*
>
> Definition of Power Projection
> Naval Doctrine Publication 1, Naval Warfare

The U.S. Navy uses *Force 2001 Vision…Presence…Power: A Program Guide to the US Navy* as a comprehensive look at the programs that will take them into the 21st century, based on the guidelines established in *Joint Vision 2010*. According to *Force 2001* the Navy sees itself as expeditionary in nature and because of this will remain the world's premier crisis-response force.[23] A further look at Naval doctrine is necessary to better understand how the Navy uses its forces in the strategic environment of today, especially in the power projection role.

Naval doctrine is guided by the *National Security Strategy*, just as Air Force doctrine is. The Navy looks to what it considers its enduring roles, missions and tasks to fulfill the needs of national security. The principle purposes of a military are to prevent war, and if that fails, to fight and win the war. True deterrence comes from the ability to achieve success across the full spectrum of military operations. To the Navy, this deterrence is all about forward presence, sea control and power projection.[24]

The Navy sees itself as providing the backbone of joint overseas presence forces due to their expeditionary nature. The Navy's requirements of the *National Military Strategy* are summarized in three basic ideas: sea control, deterrence, and power projection.[25] It is apparent that the Navy considers itself the leader in terms of ability to project power.

Joint Vision 2010 defined the four operational concepts required to achieve success across the full spectrum of military operations (dominant maneuver, precision engagement, focused logistics, and full-dimensional protection). These operational concepts have captured the essence of expeditionary naval power.[26]

Naval Doctrine Publication 1 (NDP-1), *Naval Warfare*, discusses the character of naval forces. The character of naval forces have certain qualities which define the essence of our modern Naval forces. These qualities permit naval forces to be expeditionary or being able to be a forward-based, stabilizing presence around the world. These qualities are readiness, flexibility, self-sustainability, and mobility.[27]

The Navy is a ready force, available and credible. It is ready, not just when a crisis occurs, but whenever our allies rely on our presence and when it is necessary for our adversaries to perceive a strong commitment to defend our interests.[28] Being a ready force gives the Navy dominant maneuver, in that it is already deployed throughout the world for unforeseen crisis.

Naval forces are flexible forces. The flexibility of naval forces enables the Navy to shift its focus, to reconfigure and realign forces to handle a variety of contingencies.[29] The Navy is flexible enough to bring a wide variety of munitions to a crisis, including precision munitions. A CVBG brings with it its own force protection allowing it to work most anywhere in the world. The flexible capabilities of the Navy enable it to conduct operations across the full spectrum of military operations.

Naval forces are mobile and self-sustaining forces. Mobility enables naval forces to respond to a crisis by redirecting forces from one theater to another, while not depending solely on fixed logistics. The mobility of naval forces makes it more difficult for the

enemy to target and can complicate a enemy's defense plan. To the Navy, mobility is the key to decisive naval operations. With mobility also comes the need for logistics and the Navy is a self-sustaining force. Naval forces carry their own supplies, support and repair facilities for use early in a crisis or throughout a prolonged conflict. If a crisis should be extended, naval forces have the ability to remain on station through augmentation and resupply by combat logistics ships.[30] Mobility and self-sustaining forces meet the operational concepts of dominant maneuver and focused logistics.

It is obvious the Navy has the required qualities to attain success across the full spectrum of military operations. While the qualities are strong, what are the capabilities of naval forces? Naval expeditionary forces provide the joint force commander with a host of essential capabilities. These capabilities are considered the core capabilities of the Navy and fall into four general categories: Command and Control, Battlespace Dominance, Power Projection, and Force Sustainment.[31]

Command and Control is the gathering, processing, and distribution of information which is vital to the conduct of military planning and operations.[32] While this capability is definitely not unique to the Navy, it is unique in that it is inherent to a deployed force. A deploying AEF will have to provide and transport its command and control structure, a CVBG has its own with it everyday.

Battlespace dominance, the heart of warfare, is the essential part of naval expeditionary forces.[33] The modern battlespace is a multidimensional, encompassing air, surface, subsurface, land and space. The naval battlespace is neither fixed in size nor stationary. The Navy visualizes the battlespace as zones of superiority, which are regions they must maintain superiority in, during operations. These zones, which are based on

sensor and weapon capabilities, can reach hundreds of miles to protect forces and land masses. They maintain zones of superiority around them, not just establishing them upon arrival, but enroute to the theater of concern.[34] This is an vital asset which allows a CVBG the ability to provide full-spectrum protection for the duration of a conflict.

Power projection requires mobility, flexibility and technology to project strength against weakness.[35] The Navy's ability to project high-intensity power from the sea is its cornerstone of effective deterrence, response and war. The recognized and credible ability to project power influences our nation's ability to influence or shape the strategic environment. The ability to take the fight to the enemy is a naval strength and has long been one of our nation's primary objectives in war. NDP-1 states that "power projection is best done before the enemy's influence can become established, developed or expanded".[36]

The last core capability of the Navy is force sustainment. It has already been discussed that in order for a force to be a credible power projector, it has to be sustained. The Navy's ability to move and sustain forces at great distances from the U.S. is critical to the forward presence component of military strategy.

The Navy feels it is very capable of fulfilling the power projection role. It is a ready, flexible, mobile and self-sustaining force. These qualities directly effect the ability of the Navy to provide success across the full spectrum of military operations. It is evident that the Navy is a strong power projector by the fact that Navy doctrine considers it as one of its core capabilities.

Notes

[1] Joint Chiefs of Staff, *Joint Vision 2010*.

[2] Colonel Bob Allardance, "Implementing the Expeditionary Aerospace Force" EAF Briefs, 8 Jan 1999, available from http://eaf.dtic.mil/htmlbriefs.

[3] Joint Vision 2010, 25.

[4] Ibid, 4-5.

[5] Ibid, 19.

[6] Ibid 20.

[7] Ibid, 21.

[8] Ibid, 22.

[9] Ibid, 24.

[10] Department of the Air Force, *Global Engagement: A Vision for the 21st Century Air Force*, 1.

[11] Ibid, 7.

[12] Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, Sep 1997.

[13] Ibid, 28.

[14] Ibid, 29.

[15] Ibid, 30.

[16] Ibid, 31.

[17] Ibid, 32.

[18] F. Whitten Peters, Acting Secretary of the Air Force, "Air Expeditionary Forces", DOD Press Briefing, 4 Aug 1998.

[19] AFDD-1, 33 –34.

[20] Ibid, 34.

[21] Ibid, 72

[22] Brian E. Wages, "The First With the Most: USAF's Air Expeditionary Force Takes the Offensive on Power Projection," *Armed Forces Journal International*, no.134, (Sep 1996), 66-71.

[23] A Program Guide to the US Navy, *Force 2001: Vision…Presence…Power*…, (1997), i.

[24] Ibid, 1-2.

[25] Ibid, 2.

[26] Ibid, 2.

[27] Naval Doctrine Publication (NDP) 1, *Naval Warfare*, Mar 1994, 1.

[28] Ibid, 8.

[29] Ibid, 10.

[30] Ibid, 12-13.

[31] A Program Guide to the US Navy, 10.

[32] NDP-1, 61.

[33] A Program Guide to the US Navy, 61.

[34] NDP-1, 64

[35] A Program Guide to the US Navy, 12.

[36] NDP-1, 67.

Chapter 3

The Aerospace Expeditionary Force

Capabilities and Requirements

> *As we look to the future, we can expect to see the AEF concept used more frequently because its economical, practical and it embraces any mix of aircraft. Because we can project sustainable combat capable air power so rapidly, we can reduce the number of people we have deployed. The AEF is more cost effective and, from the theater commander's perspective, it's a responsive, lethal package that gives almost immediate results.*
>
> General Joseph W. Ralston, ACC Commander

To understand the full capabilities of an Aerospace Expeditionary Force, we must first take a look at how the AEF concept evolved. It is apparent that an AEF concept is deep rooted in Air Force doctrine, but how did we get to where we are today? This paper will first look at the AEF force structure since the mid-1990's to the proposed force structure which will be implemented by January 2000.[1]

In the aftermath of the Gulf War, the AEF was set up to provide a truly rapid response in the modern environment. The AEF was designed to provide a capability to deploy forces from stateside bases and conduct combat operations from within theater within 48 hours of initial notification.[2] Two events triggered this necessity. As previously mentioned, the Iraqis unexpectedly massed forces along the border in 1994 and in response, the U.S. deployed more than 400 aircraft to the theater. The other event

which led to the need of an AEF is called the carrier gap. As part of the normal rotation of CVBGs, the Navy had scheduled one of its carriers, deployed in the Persian Gulf region, for routine maintenance in October 1995. The Navy could not replace this carrier for up to six weeks, thus leaving a gap in coverage in the region. This left U.S. Central Command with having to fill this gap with USAF assets. In order to replace the carrier based assets, the Ninth Air Force determined it could fill this gap with a total of 36 aircraft (12 F-15C, 12 F-16C,6 HTS F-16C for suppression of enemy air defense or SEAD role, and 6 B-52's which sat on alert in CONUS).[3]

This set the framework for the initial AEF deployments. A typical AEF package would consist of about 30 aircraft. These 30 aircraft were based on the carrier gap filler (12 air-to-air, 12 strike and six SEAD aircraft).[4] These were not hard and fast numbers. The combatant commanders could tailor an AEF package to meet specific needs based on specific theater threats and targets or objectives. If there were no in-theater air refueling tanker assets available, then the AEF would include four tankers in addition to the 30 fighters. The B-52s, which were held on alert in 1995, were taken off alert. Long range bombers would always be available to launch from the U.S. and be integrated into AEF strike packages based on specific theater needs.[5]

In terms of logistics, the fighter force alone required a total of 1,000 personnel to support operations. This number increased to 1,175 with additional tankers. Airlift must be available in order for an AEF to successfully deploy. The deployment of an AEF would most likely occur with normal day-to-day airlift requirements available (i.e. not during a major theater war). If this were the case, then the deployment an the AEF could get top priority on airlift and still meet the combat sortie within 48 hours goal. The initial

AEF had an estimated 50 to 60 C-141 equivalents to get the forces in theater.[6] Currently a typical AEF requires 11 C-5 equivalent loads, but it is thought this number could be reduced to five or six.[7] These numbers change depending upon the amount of propositioned equipment which was already in theater.

With this total force of 30 aircraft, and 1,000 personnel the AEF could generate anywhere between 40 and 60 combat sorties per day to support the mission.[8] While no definite figures on the actual cost of an AEF deployment were found, the cost of an AEF's operations over and above similar training at home is about $7 to $10 million. Most of this cost comes from airlift.[9]

The Aerospace Expeditionary Force, which is currently being developed and planned, is different in several key areas. The AEF generation concept is completely different and the force structure will be larger. This was brought about because leadership felt that the U.S. has responded to contingencies around the globe in an ad hoc basis. The AEF was more reactionary and not planned.[10]

In order to better prepare for unforeseen contingencies around the world, the acting Secretary of the Air Force and Chief of Staff of the Air Force, proposed the new AEF concept, with an implementation date of 1 January 2000. The new AEF will give an area commander a large, sustained force able to put bombs on target within 72 hours of an execute order. The Air Force, Air National Guard and Air Reserve Forces will be linked together into 10 notional AEFs, each of which with a variety of systems capable of decisive firepower and humanitarian support. There will be two AEFs on call at any given time to handle contingency operations for a 90 day period.[11] This is a dramatic

shift from the old AEF in that we now have known forces that are capable of deploying and employing within 72 hours.

According to the Chief of Staff of the Air Force, General Ryan, the force structure will be much different from the old 30 fighter/attack aircraft AEF. The total size of one AEF would be about 175 aircraft, which will have a cross section of fighters, bombers, support aircraft, and airlift, with integrated command and control. There will be two AEFs on call at any given time, giving us a rapid response capability, with trained and ready forces which are lean and agile. Each AEF is such a larger force compared to the old AEF, thus making it more capable. General Ryan feels that an entire AEF would probably never have to deploy all at the same time, but the mixed composition of the force allows a theater commander to tailor his forces for his needs.[12]

With the increase in the number of aircraft allotted to each AEF, comes an increase in manpower and logistics. Each AEF will consist of up to 5,000 personnel that are on call to deploy. These will include personnel from flying and non-flying units to include space assets, intelligence and support. The whole concept is one of having an AEF, which is composed of units from many different wings, that is on call, ready to deploy within 48 hours.[13] With a larger force comes the increased task of mobility. Under the new AEF concept, a force will have organic airlift and tanker support, plus the airlift priority during an actual crisis.

Major General Don Cook, Director of EAF Implementation, discussed what the AEF is and is not during a recent briefing. The AEF is a rapid responsive force. It is light, lean and lethal. The AEF is tailored for the combatant commanders. The AEF is not a substitute for current Operational Plans (OPLANs). The AEF is not the solution for

major theater war. It does allow the Air Force to support two steady state contingencies and one pop-up contingency. With 10 AEFs, all having the same capability, the combatant commander will have the capability to call on these forces at any given notice, without fear of degraded capabilities.[14]

Strengths

The AEF has many inherent strengths. Many of these strengths are derived from the fact that the AEF is fundamentally sound when it comes to providing the four operational concepts required for full spectrum dominance of military operations. The concept of the AEF provides for dominant maneuver, precision engagement, focused logistics and full-dimensional protection.

The AEF provides the following advantages to combatant commanders: robust deployed forces, rapid response on-call forces, tailored forces to meet the "Shape" and "Respond" requirements of the National Military Strategy, and a full spectrum of capabilities.[15] The size and structure of the new AEF are derived directly from all six of the Air Forces core competencies. The large number of aircraft and forces make the AEF a lethal and capable power projection force.

Weaknesses

While the AEF concept gives a commander vast capabilities to meet the threats in today's changing strategic environment, there are several weaknesses which could prevent the AEF from being a viable option to the commander. These can be best summed up as logistical and diplomatic problems.

In order for an AEF to be effective for sustained combat operations, there must be a suitable airfield on which to operate. An AEF needs an established base, with adequate runway, an area for tents/billeting and some basic water and fuel infrastructure.[16] The airfield itself needs certain requirements to provide for 24-hour operations. The runway and ramp space must be large enough to accommodate both fighters and support. There must be adequate instrument landing systems, which are certified by the U.S., to support all-weather operations.[17] Once in theater, these forces must be supported logistically. The airlift and tanker assets must be made available. Unless there is a significant amount of prepositioned equipment and supplies, the AEF will have to rely solely on airlift to provide continuous combat operations. The Air Force has since adopted a time-definite or just in time approach under agile combat support to help support the AEF concept. This approach will get supplies to theater when and where they are needed, providing a transportation system that eliminates large inventories and wasted transport.[18]

Another critical weakness of the AEF, is it needs to get permission of a host country, not only to land there, but to overfly or conduct combat operations from there. Gaining forward base access requires laying political groundwork.[19] At times, this may not be a problem, particularly when the host nation is the country being threatened and requests our assistance. This will be a problem when we need to conduct operations from a country that is not being threatened or may have potential ties to the adversary. An AEF can not be a viable projector of power if the host country will not allow us to conduct operations from its bases.

Notes

[1] General Michael Ryan, Chief of Staff, United States Air Force, "Air Expeditionary Forces", DOD Press Briefing, 4 Aug 1998.

[2] Brian E. Wages, "The First With the Most: USAF's Air Expeditionary Force Takes the Offensive on Power Projection," *Armed Forces Journal International*, no.134, (Sep 1996), 66 - 71.

[3] Richard G. Davis, *Immediate Reach, Immediate Power: The Air Expeditionary Force and American Power Projection in the Post Cold War Era* (Washington, Air Force History and Museums Program, 1998), 22.

[4] Brigadier General William R. Looney, III, *The Air Expeditionary Force: Taking the Air Force into the Twenty-First Century*, Airpower Journal, no. 10 (Winter 1996), 4 - 9.

[5] Ibid.

[6] Ibid, 8.

[7] John A. Tirpak, *The Expeditionary Air Force Takes Shape*, Air Force Magazine, no. 80 (Jun 1997), 28 - 33.

[8] Looney, 6.

[9] Ibid, 33.

[10] F. Whitten Peters, Acting Secretary of the Air Force, "Air Expeditionary Forces", DOD Press Briefing, 4 Aug 1998.

[11] Ibid.

[12] Ryan.

[13] Ibid.

[14] Major General Don Cook, "Expeditionary Aerospace Force", EAF Briefs, 8 Jan 1999, available from http://eaf.dtic.mil/htmlbriefs.

[15] Ibid.

[16] Looney, 7.

[17] Lt Col Sheryl Guisto, "The Air Expeditionary Force: What You Need, When You Need It," (Naval War College Paper, 13 Jun 1997), 6.

[18] Lt Tam T. Vo, "Exploratory Analysis of the Deployment Feasibility of the United States Air Force Air Expeditionary Forces," Wright-Patterson AFB, OH (Air Force Institute of Technology thesis, Sep 1997), 13.

[19] Guisto, 9.

Chapter 4

The Carrier Battle Group

Capabilities and Requirements

In the period of 1990 to 1997, the Navy and Marine Corps have been called upon to respond to more than 75 situations. This number is more than double the rate for the entire Cold War – a span from 1946 to 1989.[1] It is for this reason the capabilities of a Carrier Battle Group are critical to secure our nation's interests and project power when needed.

The current number of CVBGs in the inventory is 11, plus one in reserve. There have been many studies conducted about the number the Navy needs, and it is well documented that there is a need for 15 carriers.[2] This will not happen anytime in the near future. The Navy's budget, including through the year 2003, continues to hold fast on the 11+1 carrier plan.[3] These numbers make the need for a strong and capable CVBG much more important.

The capabilities of CVBG are vast. The CVBG is a self contained unit, which brings with it its own logistical support, medical and dental, billeting, food and water, fuel, protection, firepower, command and control and self-protection. This study will look more at the airpower which the CVBG brings to the fight, but will discuss some of the other aspects as well.

A generic aircraft carrier has the capability of carrying 50 fighter/attack aircraft. The typical carrier consists of 14 F-14 Tomcats and 36 F-18C Hornets. The Tomcats have been modified for the air to ground role, and the Hornet is capable of multiple missions, to include air superiority, air to ground and suppression of enemy air defenses (SEAD). Currently, most carrier wings have an additional squadron of F-14's (12) in place of the F-18C while procurement of the more advance F-18E becomes available in the year 2001. Each carrier wing also has a complement of support and specialized aircraft. There are about 22 of these specialized aircraft, which include E-2, EA-6B, S-3, ES-3, SH-60F/H. These aircraft have various roles including anti-submarine, sea control, supply, special operations support, surveillance, anti-ship, early warning and tanker support.[4]

The CVBG brings with it a wide variety of capabilities. Each air wing is capable of providing precision engagement with precision guided munitions. The SEAD capability of the F-18 provides a CVBG self-protection for an entire strike package. The organic tanker support increases the range and capabilities of the force.

Having all these capabilities is a definite advantage, but the CVBG must be able to generate sorties to be most effective. The regular operating aircraft generation rates are 100 strike sorties and 20 support sorties a day in cycles of one hour and 40 minutes. The number of aircraft per cycle is between 15 and 17. This rate is for a single carrier, which is capable of operating for only 12 hours, and is less for longer sortie durations. The Navy was able to generate up to 200 sorties during an exercise, but in order to do so, the sortie duration was cut to one hour and operations were run 24 hours per day. During this exercise, a single carrier was able to maintain this rate for a period of 96 hours. Keep in

mind these numbers are for a single carrier, by adding one more, true 24 hour operations can be achieved.[5]

A Carrier Battle Group brings with it its own logistics. A CVBG is capable of combat operations, providing they are in theater, within hours of an execution order. It brings with it supply-class replenishment ships to resupply enroute and in theater. Combined with forward located bases and resupply centers, a CVBG virtually can sustain itself indefinitely.[6] Naval forces are also cost effective when it comes to logistics. Since the Navy is an expeditionary force and forces are continuously deployed, the deployments are already provided for in the budget. There is no "sticker shock" at the end of a deployment.[7]

Strengths

> *The unique integrated attributes of naval forces can provide the foundation for new security strategies. Their mobility and flexibility make them well suited to support overseas presence and power projection in a world without the old Cold War structures.*
>
> John Douglass, *Proceedings,* 1998

The fact that the CVBG is mobile and flexible makes it a very viable power projector. In the ever changing strategic environment, any force must be flexible enough to meet the challenges across the full spectrum of military operations. The multi-role capabilities of the aircraft of the CVBG provide a self contained fighting force, capable of conducting any type of military operation. Mobility is important merely due to the fact that most of America's vital strategic interests overseas lie within 100 miles of the coastlines worldwide. Economies move large supplies by sea, meaning that mobility across the seas must be of utmost importance to a nations force structure.[8] Also, seventy-

five percent of the world's population and national capitals lie on or near the coast, putting extra emphasis on the role of the Navy.[9]

Ships are U.S. property. We do not need permission to move our forces on international waters. We do not have to ask permission to deploy forces from our ships. CVBGs do not have to deploy to a host country to find a base with suitable runway and logistical support in order to conduct operations. Ships can also deploy and withdraw easily.[10] The fact that we have forces deployed virtually continuously mean we have forces ready to act quickly.

Carriers are also cost effective. As already mentioned, deployments are already budgeted and paid for. However, the life span of a carrier also makes it cost effective. As an example, the USS Midway has been in service for almost 50 years. In that same time hundreds of U.S. air and ground bases overseas were built, at a cost of billions, and eventually shutdown and returned to host nations. While these bases were deactivated, the Midway and other carriers were able to adapt and incorporate new technology, systems and platforms to meet the ever-changing needs.[11]

Weaknesses

The CVBG is a very capable stand-alone force, but it might not be the right tool for every job. The CVBG has limitations in numbers, vulnerability, speed and sortie generation. This section will look at these weaknesses and discuss possible implications.

As mentioned earlier, the Navy would like a 15 carrier force, but will have to live with the 11+1 force for the foreseeable future. With the smaller number of carriers available, there will be increased instances of having a "carrier gap". With scheduled downtime and maintenance programmed out, there will be instances where a carrier may

only be on station in a trouble spot for only part of the time, or one may not be available at all.[12] Of course this applies to peacetime, and during war other carriers may be made available to help support or fill the gaps.

The aircraft carrier has displayed a high degree of flexibility over the years, but they have also proved to be immune to hostile action. While this may seem like an advantage at first glance, it can prove to be a disadvantage in one way. A carrier, while forward deployed, can make itself vulnerable to attack during port calls and show of force maneuvers. A carrier is a lucrative target for smaller countries and terrorist groups trying to inflict damage on the U.S.[13] The U.S. must be ever fearful of terrorist attack on such a valuable asset.

While a CVBG is mobile, the speed it can get to a location is limited. Carriers are usually prohibited from travelling at top speed. It can take weeks for a carrier to reach a desired theater, assuming it was ready to go when executed. Since a carrier has to take a water route, there are potential chokepoints which can also slow the force down (for example, the Suez Canal). If a carrier is not in theater or close to it at the time of crisis, its ability to project power will be severely limited.[14]

As previously mentioned, a single carrier operating during a crisis has the ability to conduct 100 strike sorties per day. It can only sustain 12 hour a day operations with a single carrier. Depending on the magnitude of a crisis, this may not be enough to handle the situation.

A CVBG is a very capable force, which is mobile and flexible. It incorporates the four operational concepts of dominant maneuver, precision engagement, full-dimensional protection and focused logistics necessary to achieve full spectrum dominance. It is

capable of deploying virtually anywhere in the world where the U.S. strategic interests may be, provide flexible firepower to attack the enemy, while bringing with it a self-sustaining and self-protecting force.

Notes

[1] James D. Hessman, "Forward-Thinking and Forward-Deployed," *Sea Power* 40, no. 11 (Nov 1997), 19 – 25.

[2] Ibid, 22.

[3] 1998 Program Guide to the U.S. Navy, *Vision…Presence…Power*, (1998) available from http://www.chinfo.navy.mil/navpalib/policy/vision.

[4] Norman Polmar, "Carrier Questions—and Some Answers," *The U.S. Naval Institute: Proceedings*, April 1998, 103 – 104.

[5] Barbara Starr, "USN Seeks 24-hour 200-Strike Carrier," *Jane's Defence Weekly*, 23 July 1997, 22 – 23.

[6] The United States Navy: All Hands, "The Carrier Battle Group", available from http://www.chinfo.navy.mil/navpalib/allhands/ah0197/cvbg.html

[7] John Douglass, "Often the Only Option," *The U.S. Naval Institute: Proceedings*, February 1998, 32 – 35.

[8] Ibid, 33.

[9] Admiral Jay L. Johnson, "The Navy Operational Concept, Forward…From the Sea," *Sea Power* 40, no. 5 (May 1997), 15 – 22.

[10] Norman Freidman, "Carrier Forces Remain Free to Act," *The U.S. Naval Institute: Proceedings*, February 1998, 91 – 92.

[11] Hessman, 23.

[12] Jack M. Kennedy, "A Gap in National Security," *Sea Power*, June 1998, 5.

[13] Polmar, 103.

[14] Michael Cohen, "Carrier Battle Group: Potent Weapon or Paper Tiger?," *The U.S. Naval Institute: Proceedings*, June 1998, 50 – 55.

Chapter 5

Conclusions

> *AEFs may not always be available, but if they are they can generate high sortie rates. On the other side of the equation, carriers can move quickly, but can only generate sorties for so many days.*
>
> —General Binford Peay
> Commander of CENTCOM, July 1997

The Aerospace Expeditionary Force and the Carrier Battle Group all have the proper tools to provide a viable power projection force to meet the needs of the *National Security Strategy*. Both forces provide the four operational concepts of dominant maneuver, precision engagement, focused logistics and full-dimensional protection which are required to provide dominance across the full spectrum of military operations. Looking at each strengths and weaknesses, which force to send will depend upon the situation.

The AEF is most formidable in its ability to bring firepower quickly to theater. With the original AEF force of 30 strike aircraft, an AEF could generate 40 to 60 combat sorties a day. The new AEF, with up to 175 aircraft, can generate a considerable amount more, and within 72 hours of an execution order. Provided it has adequate basing and proper agreements for overflight rights, an AEF can bring flexible firepower to the fight 24 hours a day. Given the priority, the logistics tail of the AEF can provide for sustained operations for an infinite amount of time. The AEF is also best suited for regional

conflicts, and is not planned on major theater warfare. The AEF gives the combatant commander the flexibility of a tailored force which is best suited for a given situation.

The CVBG's strength lies in its expeditionary nature. The CVBG deploys throughout the world as part of normal operations. The CVBG can be prepositioned near a theater prior to a crisis or ordered to change course in the event of a crisis. While operating in international waters, a CVBG is free to operate throughout the world and does not have to worry about host nation support. It brings a flexible force with fully integrated command and control and self-protection. While a single carrier can provide up to 100 sorties in a 12 hour period, a second carrier in region can provide for 24 hour a day coverage. Providing presence already in theater, the CVBG can provide necessary deterrence and possible avoiding conflict.

As General Peay mentioned, an AEF may not be available or the CVBG cannot provide sustained sortie generation, but the bottom line is that joint forces are required.[1] The situation will dictate what combination of forces will be necessary to meet our objectives. Commanders of tomorrow's conflicts will have to analyze the situation and determine the appropriate force required. Do not be surprised that in the future, the first thought that arises during a crisis is not "Where's the carrier?" but more like "Send an AEF!".

Notes

[1] Barbara Starr, "USN Seeks 24-hour 200-Strike Carrier," *Jane's Defence Weekly*, 23 July 1997, 22 – 23.

Bibliography

Air Force Document (AFDD) 1. *Air Force Basic Doctrine*. September 1997.

Allardance, Colonel Bob. "Implementing the Expeditionary Aerospace Force." EAF Briefs. On-line. Internet, 8 January 1999. Available from http://eaf.dtic.mil/htmlbriefs.

A Program Guide to the U.S. Navy. *Force 2001: Vision…Presence…Power*. 1997.

Department of the Air Force. *Global Engagement: A Vision for the 21st Century Air Force*.

Clinton, William J. "A National Security Strategy For A New Century." Washington D.C. October 1998.

Cohen, Michael. "Carrier Battle Group: Potent Weapon or Paper Tiger?," *The U.S. Naval Institute: Proceedings*, (June 1998): 50 – 55.

Cook, Major General Don. "Expeditionary Aerospace Force." EAF Briefs. On-line. Internet, 8 January 1999. Available from http://eaf.dtic.mil/htmlbriefs.

Davis, Richard G. *Immediate Reach, Immediate Power: The Air Expeditionary Force and American Power Projection in the Post Cold War Era.* Air Force History and Museums Program, Washington D.C., 1998.

Douglass, John. "Often the Only Option," *The U.S. Naval Institute: Proceedings*, (February 1998): 32 – 35.

Freidman, Norman. "Carrier Forces Remain Free to Act," *The U.S. Naval Institute: Proceedings*, (February 1998): 91 – 92.

Goodman, Glenn W. Jr. "An Expeditionary Aerospace Force." *Armed Forces Journal* (August 1998): 18 – 19.

Guisto, Lt Colonel Sheryl. "The Expeditionary Air Force: What You Need, When You Need It." Naval War College Paper, 13 June 1997.

Hessman, James D. "Forward-Thinking and Forward-Deployed," *Sea Power* 40, no. 11 (Nov 1997): 19 – 25

Jefferson, Colonel Mark Jefferson. "Evolving to an Expeditionary Aerospace Force." EAF Briefs. On-line. Internet, 8 January 1999. Available from http://eaf.dtic.mil/htmlbriefs.

Johnson, Admiral Jay L. "The Navy Operational Concept, Forward…From the Sea," *Sea Power* 40, no. 5 (May 1997): 15 – 22.

Joints Chiefs of Staff. *Joint Vision 2010*.

Kennedy, Jack M. "A Gap in National Security," *Sea Power*, (June 1998): 5.

Looney, Brigadier General William R., III. "The Air Expeditionary Force: Taking the Air Force into the Twenty-First Century." Airpower Journal, no. 10 (Winter 1996): 4–9.

Naval Doctrine Publication (NDP) 1. *Naval Warfare*. March 1994.

1998 Program Guide to the U.S. Navy. *Vision…Presence…Power*. On-line. Internet, 3 February 1999. Available from http://www.chinfo.navy.mil/navpalib/policy/vision.

Peters, F. Whitten, Acting Secretary of the Air Force, "Air Expeditionary Forces." DOD Press Briefing, Washington D.C., 4 August 1998.

Polmar, Norman. "Carrier Questions—and Some Answers," *The U.S. Naval Institute: Proceedings*, (April 1998): 103 – 104.

Ryan, General Michael, Chief of Staff, United States Air Force, "Air Expeditionary Forces." DOD Press Briefing, Washington D.C., 4 August 1998.

Starr, Barbara. "USN Seeks 24-hour 200-Strike Carrier," *Jane's Defence Weekly*, (23 July 1997): 22 – 23.

The United States Navy: All Hands. "The Carrier Battle Group." On-line. Internet, 3 February 1999. Available from http://www.chinfo.navy.mil/navpalib/allhands/ah0197/cvbg.html.

Tirpak, John A. "The Expeditionary Air Force Takes Shape." Air Force Magazine, no. 80 (June 1997): 28 – 33.

Vo, Lt Tam T. "Exploratory Analysis of the Deployment Feasibility of the United States Air Force Air Expeditionary Forces." Air Force Institute of Technology thesis, September 1997.

Wages, Colonel Brian E. "The First With The Most." *Armed Forces Journal*, no. 134 (September 1996): 66 – 71.